# RUNNER BEAN (*PHASEOLUS COCCINEUS* L) PRODUCTION IN CHILE

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Common bean (*Phaseolus vulgaris* L.) is the only one bean planted in Chile, however, there are small home-made vegetable gardens with runner bean (*Phaseolus coccineus*), called locally "poroto pallar", in the central-southern area as a climbing bean that grow on poles. An interesting point is that related with genetic diversity with large size seed, especially those of white colour because of its excellent cooking quality and high demand after they are tasted. For this reason, the Grain Legume Breeding Program of Agricultural Research Institute of Chile (INIA, tested a system of runner bean production after selection of a landrace called Quilapallar, with a white and large seed size. This system recommends a production method without support, similar to common bean. Despite that runner bean has indeterminate growth habit with high foliar production and respond to use of support, it is less expensive to crop without support, especially in large scale.

As the runner bean is unable to reach total maturity in the central-southern area of Chile, and they have to be harvested at the end of summer, middle of march, no matter if there are plants with pods in different development stages, flowers, and new leaves in that moment. At the harvest time, each plant has 6 to 8 mature pods, and they are cut and harvested about 7 days later. Farmer production with this system can yield about 1200 to 2000 kg $ha^{-1}$.

The most expensive production factor in this system was cost of seeds because of its large size, about 184 g per 100 seeds. Experiments with different seed rates have been done in order to increase profit margin. Table 1 shows the main results of this experiment, and they indicates that higher seed rates had greater yield; however, the best profit was with 153 kg/ha as seed rate, with 20 cm intra row and 60 cm inter row.

**Table 1**. Distance intra rows, seed rate, plant density, pod per plant, seeds per pod, weight of 100 seeds, and yield of runner bean landrace "Quilapallar". Chillán, Chile 2006.

| Distance intra row (cm) | Seed rates (kg $ha^{-1}$) | Plant density (plants $m^{-2}$) | Pods per plant | Seeds per pod | Weight of 100 seeds (g) | Yield (kg $ha^{-1}$) |
|---|---|---|---|---|---|---|
| 5 cm | 613 | 29,17 | 3,17 | 2,16 | 168 | 3891 |
| 10 cm | 307 | 17,50 | 5,57 | 2,23 | 174 | 3344 |
| 15 cm | 204 | 11,67 | 7,64 | 2,29 | 179 | 3286 |
| 20 cm | 153 | 8,33 | 10,42 | 2,49 | 167 | 3248 |
| 25 cm | 123 | 7,50 | 7,11 | 2,58 | 171 | 2951 |
| CV, (%) | | 21,59 | 9,88 | 8,76 | 15,27 | 5,2 |
| LSD (.05) | | 3,55 | 4,15 | ns | ns | 250 |

## REFERENCES

Tay, J, A. France and A. Pedreros. 2007. Producción de poroto pallar. Tierra Adentro 73:24-25.